

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF JUL 5 2005
INTERNATIONAL SEARCHING AUTHORITY
WIPO
(PCT Rule 43bis.1) PCT

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/US2005/008559

International filing date (day/month/year)
14.03.2005

Priority date (day/month/year)
01.04.2004

International Patent Classification (IPC) or both national classification and IPC
H01R12/12

Applicant
3M INNOVATIVE PROPERTIES COMPANY

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and Industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized Officer

Garcia Congosto, M

Telephone No. +49 89 2399-7446



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2005/008559

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. II Priority

1. ☒ The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43bis.1 and 64.1) is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2005/008559

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|---------|
| Novelty (N) | Yes: Claims | 4-6,8 |
| | No: Claims | 1-3,7,9 |
| Inventive step (IS) | Yes: Claims | 4-6 |
| | No: Claims | 1-3,7-9 |
| Industrial applicability (IA) | Yes: Claims | 1-9 |
| | No: Claims | |

2. Citations and explanations

see separate sheet

Re Item V.

1 Reference is made to the following documents:

D1: US-A-5 902 146 (HANAMI ET AL) 11 May 1999

D2: EP-A-1 337 009 (SUMITOMO WIRING SYSTEMS, LTD) 20 August 2003

D3: US-A-4 632 486 (HASIRCOGLU ET AL) 30 December 1986

D4: US-A-4 464 002 (SUZUKI ET AL) 7 August 1984

D5: PATENT ABSTRACTS OF JAPAN vol. 2002, no. 05, 3 May 2002 & JP 2002 025667 A (HIROSE ELECTRIC CO LTD), 25 January 2002

2 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1-3, 7 and 9 is not new in the sense of Article 33(2) PCT.

2.1 The subject-matter of claim 1 is not new because document D1 discloses (the references in parenthesis applying to this document):

"A connector (figures 1-2) comprising:

a terminal element (6) having an insulation-displacement type conductor-connecting section (6B) connectable to a conductor of an electric wire (C2) and a contact section (6A) capable of coming into conductive contact with a corresponding terminal element of a counterpart connector (20); and

an electrical insulating body (2) for supporting said terminal element (column 3, lines 13-14) while exposing said contact section (figure 2);

wherein said body includes a fitting portion (9) capable of fitting to the counterpart connector while positioning said contact section of said terminal element with respect to the corresponding terminal element (column 3, lines 15-19); and

wherein said conductor-connecting section and said contact section of said terminal element are arranged to be aligned with each other in a direction intersecting a connector fitting direction determined by said fitting portion (figure 2)."

- 2.2 The supplementary features and steps introduced by dependent claims 2-3, 7 and 9 are also disclosed in D1, see concerning:

claims 2-3: column 2, lines 59-62;
claim 7: column 3, lines 14-15;
claim 9: column 3, line 47 to column 4, line 6.

3. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 8 does not involve an inventive step in the sense of Article 33(3) PCT.

The features of dependent claim 8 have already been employed for the same purpose in a similar "connector", see document D4, figure 7. It would therefore be obvious to the person skilled in the art, to apply these features and steps with corresponding effect to the "connector" disclosed in document D1, thus arriving obviously at a "connector" according to claim 8.

4. Claims 4-6 appear to meet the requirements of the PCT with respect to novelty and inventive step for the following reasons:

- 4.1 The subject-matter of claim 4 differs from D1 in that:

F1: "The connector further comprises a shield member incorporated in said second support member".

F2: "The shield member includes a securing portion for securing said first support member and said second support member to each other."

The problem to be solved by the present invention may therefore be regarded as P1: to find an alternative constructional solution for securing the "support members to each other". The solution is provided by the subject-matter of claim 4, see especially feature F2.

The invention is neither disclosed in nor rendered obvious by either one of the prior art documents listed in the International Search Report. Documents D2 and D5 disclose a connector comprising F1 but not F2. F2 is not disclosed in any of the documents of the International Search Report. Therefore, in view of the available prior art, claim 4 seems to be new and inventive.

4.2 The subject-matter of claim 6 differs from D1, inter alia, in that:

F3: "The contact section of said terminal element has a curved shape capable of conductively contacting with the corresponding terminal element of the counterpart connector at a plurality of points simultaneously"

The problem to be solved by the present invention may therefore be regarded as P2: to increase the contact area between the "terminal" and the "corresponding terminal element of the counterpart". The solution is provided by the subject-matter of claim 6, see especially feature F3.

The invention is neither disclosed in nor rendered obvious by either one of the prior art documents listed in the International Search Report. F3 is not disclosed in any of the documents of the International Search Report. Therefore, in view of the available prior art, claim 6 seems to be new and inventive.

4.3 Claim 5 is dependent on claim 4 and as such also seems to meet the requirements of the PCT with respect to novelty and inventive step.